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“Symptoms, Attitudes and Treatment Choices Surrounding Menopause among the Q’eqchi Maya of Livingston, Guatemala”

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Abstract

The present study explored symptoms, attitudes and treatments surrounding women’s health and menopause among the Q’eqchi Maya of the eastern tropical lowlands of Guatemala. Data were obtained through participant observation, semi-structured interviews, focus groups and plant walks with 50 Q’eqchi community members from the state of Izabal, Municipality of Livingston, including 5 midwives, 5 traditional male healers and 8 postmenopausal women. Results indicate that the Q’eqchi Maya of Livingston possess their own cultural perceptions of women’s health which affect attitudes, symptoms and treatment choices during the menopausal transition. Since discussions of menstruation and menopause are considered cultural taboos among the Q’eqchi, many women mentioned experiencing excessive preoccupation when unanticipated and unfamiliar symptoms occurred. Furthermore, many women suffered from additional hardship when their spouse misinterpreted menopausal symptoms (vaginal dryness, sexual disinterest) as infidelity. Seven of the eight postmenopausal women interviewed indicated experiencing one or more symptoms during the menopausal transition, including headaches, anxiety, muscular pain, depression, and hot flashes. These results differ from the lack of symptomatology reported in previous studies in Mexico, but are in line with the result of menopausal research conducted among other Maya groups from the highlands of Guatemala. Although the Q’eqchi did not use a specific term for “hot flash”, three Q’eqchi women used the expression “baja presion” or a “lowering of blood pressure” to explain symptoms of profuse sweating followed by chills, heart palpitations, and emotional instability. The Q’eqchi Maya mentioned a number of herbal remedies to treat menopausal symptoms. Further research on these botanical treatments is needed in order to ascertain their safety and efficacy for continued use.

Keywords

Guatemala; Menopause; Maya women; Herbal medicine; Q'eqchi; Women's Health

Introduction

The majority of data available on attitudes, symptoms and treatments associated with menopause has been generated from research in the U.S. and Europe among homogeneous groups of Caucasian, middle-class educated women (Lock, 2002). Yet limited cross-cultural research on menopause suggests that attitudes and incidences of symptoms vary considerably depending on environment, health status and cultural paradigms around women's health (Avis, Stellato, Crawford, Bromberger, Ganz, Cain et al., 2001; Gold, Sternfeld, Kelsey, Brown, Mouton, Reame, et al., 2000; Sommer, Avis, Meyer, Ory, Madden, Kagawa-Singer et al., 1999). Data on menopause in Latin America come primarily from Mexico, and many studies suggest that Mexican women have more positive attitudes and less symptomatology as compared with those in the U.S. and Europe (Beyene, 1986; Martin, Block, Sanchez, Arnaud, & Beyene, 1993;). A frequently cited study among Maya women (n = 78) in Chichimila, Mexico revealed that, although follicle stimulating hormone (FSH) and luteinizing hormone (LH) levels were as high as those in U.S. postmenopausal women, none of these women reported vasomotor symptoms usually associated with such hormonal changes (Martin, et al., 1993). One study among 107 Maya women in the Yucatan also found no symptomatology related to menopause other than the cessation of menstruation (Beyene, 1986). Furthermore, bone mineral density, an important intermediate outcome and risk factor for fracture, was found to be lower in women from both studies as compared with U.S. postmenopausal women, yet there was no observed osteoporosis (Beyene, 1986; Martin, et al., 1993). Because menopause was considered a natural process for these women, these researchers concluded that it was not a condition that was normally treated. Consequently no herbal remedies were reported for the treatment of menopausal symptoms. In contrast, studies from various rural and urban centers in Mexico found that 31–50% of postmenopausal Mexican women complained of hot flashes and night sweats; these statistics are more comparable to those from U.S. women (Canto-de-Cetina, Canto-de-Cetina, & Polanco-Reyes, 1998; Malacara, Canto-de-Cetina, Bassol, Gonzalez, Cacique, Vera-Ramirez, et al., 2002; Sievert & Espinosa-Hernandez, 2003). The uses of either conventional or alternative treatments were not reported in these investigations. Conflicting data from a limited number of studies of menopause in Latin American women show extreme variations in attitudes and symptomatology; thus further studies on this subject are needed to clarify these issues.

The first and only published report on menopause in Guatemala (2003) was a qualitative exploration by Stewart of attitudes and symptoms of menopause among 27 Quiché, Tzutujil, and Cakchiquel Maya women in the Guatemalan highlands (Stewart, 2003). Similar to reports from Maya women in Mexico, these women had a very positive attitude about their entrance into menopause. However, unlike some of the studies among Maya women in Mexico, these women experienced menopausal symptoms similar to those of U.S. women including hot flashes, night sweats, moodiness and menstrual irregularities. Treatment for these symptoms included steam baths, lower abdominal massage by midwives, and herbs. No Western-style treatment was sought to manage menopausal symptoms. These Maya women also had little problem with osteoporosis in the post-menopausal period, which has been attributed previously to the typical Maya diet and work patterns (Beyene, 1986).

Treatment Options for Menopause

For many years hormone therapy (HT), a synthetic combination of estrogen plus progestin, was Western medicine's gold standard for the symptomatic treatment of menopause (Cutson & Meuleman, 2000). However, the release of the 2002 findings on HT by the Women's Health Initiative (WHI) indicated that there were more harmful than beneficial outcomes in women taking estrogen plus progestin compared to those taking a placebo. Data from this randomized clinical trial revealed an increase in heart disease by 29%, (37 vs. 30 per 10 000 person-years) and breast cancer by 26% (38 vs 30 per 10 000 person-years) (Rossouw, Anderson, Prentice, LaCroix, Kooperberg, Stefanick, et al., 2002). Consequently women worldwide are looking to alternative treatments for menopause, including botanical dietary supplements (BDS) (Kronenberg & Fugh-Berman, 2002; Low Dog, Powell, & Weisman, 2003). Common botanicals for the treatment of menopausal symptoms among U.S. women include dong quai (*Angelica sinensis* L., Apiaceae), ginseng (*Panax ginseng* C.A. Mey., Araliaceae), evening primrose oil (*Oenothera biennis* L., Onagraceae), black cohosh (*Actaea racemosa* L., Ranunculaceae; syn.: *Cimicifuga racemosa* (L.) Nutt.), red clover (*Trifolium pratense* L., Fabaceae) and soy (*Glycine max* Merrill, Fabaceae). Although red clover, soy and black cohosh appear to be promising candidates for the symptomatic relief of menopausal symptoms, further studies are needed to ascertain their long-term safety profile (Kronenberg & Fugh-Berman, 2002). Thus the current list of effective treatment options for menopause is limited, warranting further studies on alternative remedies used worldwide.

Although HT is available for Hispanic menopausal women in industrialized countries, studies suggest that Hispanic women in the U.S. are among the ethnic groups least likely to use conventional hormone therapy (HT) (Avis, et al., 2001; Gavalier, 2002; Longworth, 2003; Laws & Carbalreira, 2003; Mahady, Parrot, Lee, Yun, & Dan, 2003). In one study, only five non-surgical peri- and postmenopausal women of the 130 Mexican-American women interviewed were using conventional hormone therapy, and in another U.S. study, only three of 20 Mexican-American women had ever tried HT (Bell, 1995; Kay, Voda, Olivas, Rios, & Imle, 1982). Herbal teas were frequently mentioned as treatment alternatives, whereas other women let the symptoms subside on their own (Bell, 1995; Kay, et al., 1982; Mahady, et al., 2003). Another study exploring the use of non-allopathic healing methods among 281 menopausal Latina women in the US found that 38.1% of respondents used herbal home remedies, the most common of which were orange leaf (*Citrus* sp., Rutaceae) and star anise (Laws, et al., 2003). One New York study compared herbal treatments for women's health found in the literature from the Dominican Republic with common herbal remedies used by Dominican women residing in New York (Ososki, Lohr, Reiff, Balick, Kronenberg, Fugh-Berman, et al., 2002). The majority of plant species (95%, N = 19) that overlapped from fieldwork in New York and the literature were used for similar conditions and symptoms. Three of these plants were used to relieve hot flashes: pineapple (*Ananas comosus* (L.) Merr., Bromeliaceae), orange leaf (*Citrus* sp., Rutaceae) and ginger (*Zingiber officinale* Roscoe, Zingiberaceae) (Ososki, et al., 2002).

The Study

Women's Health and Menopause in Guatemala

Guatemala is considered the most ethnically diverse country in Central America with over 20 groups of ethno-linguistic Maya origin that make up over 50% of the population (Giron, Freire, Alonzo, & Caceres, 1991; PAHO, 1999). The majority of the Maya population lives in rural areas without access to modern health care (PAHO, 1999). As a consequence, more than 80% of rural births are attended exclusively by a traditional birth mid-wife and rural Guatemalans rely almost exclusively on herbal remedies during all stages of their life (Caceres, 1996; Orellana, 1987; Villatorro, 1994). Recognizing this situation, in 1999 the Guatemalan Ministry

of Health began an initiative to support the integration of traditional and conventional healing practices by forming a committee of healers representing each ethnolinguistic group in the country (Ministerio de Salud Publica, 1999). Nonetheless, both within individual households as well as government health care agencies, women's health issues continue to come last and, with the exception of the research of Caceres and co-workers that explored the anti-Candida, anti-gonorrheal and diuretic activity of selected plants (Caceres, Giron, & Martinez, 1987; Caceres, Jauregui, Herrera, & Logemann, 1991; Caceres, Menendez, Mendez, Cohobon, Samayoa, Jauregui et al., 1995), few research studies in Guatemala have systematically explored the safety and efficacy of herbal remedies used in women's health.

The Q'eqchi comprise the third largest Maya population in Guatemala and occupy the largest geographic area of any other Maya group in the country (Map 1) (Instituto Nacional de Estadistic as, 2002). Originally from the self contained and inaccessible highlands (Alta Verapaz), the Q'eqchi were able to maintain relative autonomy from European influences and invasions in the 16th and 17th century (Vielman, 1965). Consequently, this area has been referred to as one of the greatest Mesoamerican heartlands of Indian culture since pre-Columbian times (Wauchope, 1969). Although Maya trade routes between the highlands and the lowlands of Guatemala had been established prior to the arrival of the Spanish, the eastern lowlands of Guatemala remained sparsely inhabited prior to the 1950s, when land pressure, infrastructure development and agricultural expansion led many Q'eqchi men to leave their homeland in search of work and new land (Vielman, 1965). The greatest exodus of Q'eqchi into Izabal took place in the 1980's during Guatemala's Civil War that forced many Maya communities to flee their homelands in search of safe refuge in the depths of the tropical rain forests (Rehmi, 1999). As a result, the Q'eqchi of Livingston, Izabal are made up of an interesting mix of traditional highland Maya culture and medical practices, combined with newly adapted practices using medicinal plant species from the lowland tropics. They live in one of the most biodiverse regions in Guatemala, yet, due to its extreme humidity and limited accessibility, this region has been little studied floristically (Pöll, 1984a;Pöll 1984b;Pöll & Díaz, 1989;Villar, 1998), and there are no published ethnographic studies on the Q'eqchi of Livingston, Izabal. Despite their recent arrivals to this tropical climate, the Q'eqchi of Livingston maintain a rich tradition of Maya medical beliefs and continue to use herbal remedies to treat a myriad of health conditions, including women's health. In this context, the main objectives of the present study were to explore Q'eqchi Maya cultural attitudes surrounding women's health, particularly menopause, and to document the herbal remedies they commonly use to treat menopausal symptoms.

Site Selection

Among the approximately 45 Q'eqchi villages in the Livingston area, four were selected based on their geographic separation from each other and previous contacts made with village women, elders and healers (Map 1). Due to the extreme reservation of the Q'eqchi in sharing their knowledge with outsiders, it was not possible to use a random method of informant selection. In 1998–1999 the author volunteered with the local NGO Asociacion Ak'Tenamit to provide programs on sustainable agriculture and home gardens over a period of 15 months. The relationships of trust built during this time and the annual visits to these communities that followed (1999–2003) were the basis for informant selection. The “snowball technique” in ethnography was then used to contact friends and family members of each collaborator (Browner, De Montellano, & Rubel, 1988).

International Cooperation

This research investigation is part of a collaborative project between The University of Illinois at Chicago (UIC), USA, and the University of San Carlos (USC), Guatemala. A Memorandum of Understanding (MOU), set down by the University of Illinois at Chicago (UIC), was

negotiated in 2000 and signed by authorities from UIC and USC in September of 2004. This agreement is based on the template used by Soejarto and co-workers (Soejarto, Gyllenhaal, Fong, Xuan, Hiep, Hung, et al., 2004), and acknowledges Guatemala's sovereign rights over their biological resources and the principle of fairly and equitably sharing the benefits of the research process and any benefits in the event of commercialization of a product. For this research, plant collection permits were obtained from the Guatemalan government, while ethnobotanical field interview protocol was obtained through the approval of the Institutional Review Board (IRB) of the University of Illinois at Chicago (protocol #2002-0514). Prior Informed Consent (PIC) documents, included in the UIC IRB protocol, were read aloud in Spanish or Q'eqchi to each interviewee before initiating the interview process and copies of both forms were given to those consenting to participate. Either a signature or a thumb-print on the consent form served as evidence of the consent. In addition, in those cases in which a taped recording of the interview was desired, each interviewee was asked whether they would agree to being recorded and were offered a copy of any recordings made.

Participant observation and Interviews

Participant observation in women's daily activities (hauling water, making tortillas, childrearing) took place over an eight-month period and allowed the researcher to experience first-hand the challenges and rewards of rural life for Q'eqchi women. Furthermore, direct participation in village life allowed the delicate topic of women's health to be approached from an open-ended, indirect manner, thereby identifying bio-cultural constructs around which the community builds their own ideas around menstruation, pregnancy and menopause (Agar, 1986; Alexiades, 1996).

Semi-structured interviews were conducted with 50 Q'eqchi community members, including four Q'eqchi midwives and one Garifuna midwife, five traditional Maya healers (curanderos), eight postmenopausal women and 32 Q'eqchi women and men from four rural Q'eqchi villages and the town of Livingston. Interview questions were developed using previous ethnographic reports on Q'eqchi culture (Parra Novo, 1997; Wilson, 1994; Wilson, 1995), field studies related to women's health (Berlin & Berlin, 1996; Browner, 1985; Castaneda, Garcia, & Langer, 1996; Lock, 1998) and bibliographic materials on ethnobotanical interview techniques (Alexiades, 1996; Browner, De Montellano, & Rubel, 1988;). Interview questions were formulated to explore cultural attitudes of women's health and the use of local plants to treat common women's health complaints related to menstruation and menopause. Care was taken to avoid using any specific terms associated with menopause. Rather, interviewees were asked if they were familiar with any health problems related specifically to older women and if there are any symptoms associated with the cessation of menstruation. Since the majority of interviewees could not read or write, interviews were translated into Q'eqchi and Spanish and conducted orally either in Spanish by the researcher or in Q'eqchi by a trained Q'eqchi midwife. Each interview lasted approximately 60 minutes.

Results

Interviews with Q'eqchi male and female community members

Information from community members is based on unstructured and semi-structured interviews participant observation, and group workshops on women's health during home stays in the four villages. A total of 40 Q'eqchi men and women were interviewed, including 8 postmenopausal women. There are a number of cultural taboos and restrictions surrounding women's health in Q'eqchi Maya communities. Taboos include inhibiting the discussion of menstruation and menopause until the event occurs, prohibiting bathing and serving food during menstruation and avoiding looking at newborn children during menstruation and pregnancy, as her "hot blood" would cause infant illness. According to the Q'eqchi, woman

with “cold” blood experience menstrual delay, menstrual pain and menopausal symptoms that require “hot” herbal treatments to restore balance. Difficulties during pregnancy and childbirth, multi-parity and an early menarche are also associated with menstrual pain and menopausal symptoms. Most of the men and women interviewed appeared to either be unfamiliar with menopause or they felt uncomfortable sharing such information in a group setting. The community mentioned a number of medicinal plant remedies for women’s ailments associated with menstruation but did not have any remedy for menopausal symptoms.

Analysis of the data revealed a relationship between age and attitudes towards menstruation and menopause. The 10 women and men ages 18–24 that were interviewed became familiar with menstruation and menopause during 5th grade biology class rather than through explanations by family members. They all felt that it was important for them to be familiar with the biology and symptomatology associated with these transitional times, although their full understanding of menstruation and menopause was limited.

Among the 10 men and 10 women ages 26–47 the mean age of education was 3rd grade. All of these individuals mentioned that they were not told about menstruation or menopause until the event occurred. The women expressed worry and concern when bleeding or body pains occurred that, to them, had no physiological basis. Many of these women were already married at the time of menarche and relied on their husband’s knowledge to inform them about menstruation. For others, mothers or friends quickly informed them about menstruation and menopause once the event began. The information given to these women, however, was restricted to informing them that menstruation meant that they were now able to have children and that they would bleed each month. For menopausal women they were told that they had now reached the end of their childbearing years. These women were not alerted to anticipate the physiological nor psychological symptoms associated with menstruation or menopause. Many women expressed a concern that menopausal symptoms were the result of cancer or tuberculosis. All of these women wished they had been informed about menstruation and menopause and felt that it is important that their children learn about women’s health in school. In terms of health care their needs often come last and must often be preceded by their husband’s permission to visit a medical practitioner. This has prevented many women from seeking medical attention for gynecological ailments as their husbands often insisted that their discomforts (specifically vaginal dryness and sexual disinterest) were the results of adultery.

The eight postmenopausal women and two men ages 48–60 who had the lowest level of formal education, indicated that they felt that it is inappropriate for younger women to know these biological events until the moment that they occur. “This type of talk is not appropriate for young, fragile ears. They will abuse this information or think it is a joke.” Comments like this were common among individuals in this age group. In conclusion, among the Q’eqchi elders who still maintain a number of traditional Q’eqchi Maya beliefs and, for the most part, have not received formal education, discussions of women’s health among younger women are a taboo. In contrast, younger Q’eqchi women are receiving higher education, which is accompanied by a greater familiarity with their body and greater comfort in discussing women’s health issues.

Semi-structured interviews and focus groups with midwives

Semi-structured interviews and group sessions were conducted with four Q’eqchi and one Garifuna midwife to explore the symptoms, attitudes and treatment choices for menopause. One Q’eqchi midwife and the Garifuna midwife live in the semi-urban town of Livingston. These two women became familiar with the term “menopause” and its symptoms from radio and television advertisements. The three rural Q’eqchi midwives were not familiar with the term “menopause” or the use of the term “hot flash”. Instead, these women used the expression “baja presion” or a “lowering of blood pressure” to explain the symptoms of profuse sweating

followed by chills, heart palpitation and emotional instability associated with the end of menstruation. Q'eqchi midwives viewed the end of menstruation as part of a natural phenomenon yet cultural taboos surrounding the discussion of women's health issues meant that many Q'eqchi women unfamiliar with the symptoms of menopause approach a midwife for treatment worried that these symptoms are the result of a severe chronic illness. Rural midwives mentioned the use of cultivated medicinal plants to treat menopausal symptoms, whereas the urban midwives mentioned the use of imported dried herbs available at the local herb store or market.

Interviews with Q'eqchi traditional healers

All of the Maya traditional healers (curanderos) identified in the Livingston area were male. Herb walks and interviews were conducted with five male Q'eqchi healers. All five healers mentioned that they were aware that a women's menstrual cycle ends and that there are a number of symptoms associated with it including headaches, body aches, irregular menses, excessive worry and insomnia, but "hot flashes" were not mentioned. They believe that these maladies were due to the natural aging process, "bad deeds" wished upon them by another community member (witchcraft), or nature's retribution for being disrespectful. Treatments often include the extensive use of prayers, incantations, candles, incense and visits to the local mountains (Tzuultaq') to solicit their intervention in curing those ailments believed to be of supernatural origin. A number of medicinal plants for insomnia, nervousness and body aches specifically related to the mature female were mentioned by these informants and subsequently collected and identified. All of these plants were native to the area and were primarily found growing in secondary forests.

Interviews with postmenopausal Q'eqchi women (n = 8)

Of the 50 individuals interviewed, eight were postmenopausal women who were further interviewed in depth about their experiences with menopause. Interviews began by gathering general characteristics from each woman, including age at menarche and menopause, age at first pregnancy, number of children, years of formal schooling, and use of oral contraception or hormone therapy (Table 1).

Of the eight women interviewed, seven indicated that they experienced one or more of the symptoms during the menopausal transition (Table 2). The most common symptoms experienced by menopausal women were headache (87.5%), excessive worry (87.5%) and muscular pains (87.5%). Heart palpitations, depression and irritability were also commonly associated with menopause. These women did not have a specific Q'eqchi term for menopause other than "ink'a li puchuniq" (no menstrual blood; literally "no washing"), although this term was not specific to the final menstruation of menopause. The term "ansiedad" or "anxiety" was also unfamiliar to the Q'eqchi. Questions referring to anxiety were therefore adjusted using the term "preocupacion excesiva" or "excessive worry". There were also no specific terms mentioned for menopausal hot flashes. Although the present data set is small (n=8), the presence of menopausal symptoms among these rural, illiterate Maya women with fertility patterns different from U.S. and European women suggests that the presence or absence of menopausal symptoms cannot be explained entirely by environmental factors, physiological changes in hormone levels, nor cultural taboos and attitudes surrounding menopause (Beyene, 1986). In order to gain a more holistic view of menopause among these Q'eqchi communities, additional factors of diet, fertility patterns, genetics and exercise were also considered, albeit peripherally.

Diet

The Q'eqchi diet consists almost exclusively of corn tortillas, black beans, white rice and, occasionally, chicken eggs or meat and chaya (*Cnidosculus chayamansa* McVaugh,

Euphorbiaceae), a green leafy vegetable high in iron and Vitamin A. Unpublished reports from local health clinics estimate that over 80% of Q'eqchi Maya women in the Livingston area are severely anemic and suffer from malnutrition. Malnutrition may, in part, explain the earlier onset of menopause among this Q'eqchi Maya population. Furthermore, poor nutrition may contribute to a higher incidence of general health complications, including menopausal symptoms, although this has not been proven. Like previous reports among Maya women in Mexico, osteoporosis is uncommon among Q'eqchi women. Other reports from Latin America have attributed the use of lime powder in the corn tortillas (estimated to provide an additional 500 mg of daily calcium to the diet), high calcium levels in the drinking water and lowland lime soils, and habitual weight-bearing activities as reasons for the low incidence of osteoporosis in Latin American women (Beyene & Martin, 2001; Parra-Cabreras, Hernandez-Arila, Tamayo-y-Orozco, Lopez-Carillo, & Meneses-Gonzalez, 1996).

Fertility Patterns

Q'eqchi Maya women marry early (14–17 years old), have successive and numerous pregnancies, and commonly breast-feed for up to two years. As a result, many Q'eqchi women experience long periods of amenorrhea. Use of contraceptive pills is low among this population. More studies are needed that consider the relationship between successive child-bearing, prolonged lactation and amenorrhea, the age at onset of menopause and the presence or absence of menopausal symptoms.

Exercise

Q'eqchi women spend most of their day grinding corn, hauling water and washing clothes. They also frequently participate in the cultivation and harvesting of subsistence crops. These types of physically strenuous and often weight-bearing activities may contribute to the low reporting of osteoporosis in the local health clinics that serve the rural Q'eqchi population.

Plants Used to Treat Menopausal Symptoms

Unlike other studies among the Maya (Beyene & Martin, 2001; Martin, et al., 1993), the Q'eqchi *do* seek medical attention during the menopausal transition. Q'eqchi menopausal women are more likely to seek treatment from a midwife or herbalist than a biomedical practitioner. Herbal baths and/or teas are used by the Q'eqchi to ease menopausal symptoms. One of the eight women used HT to treat menopausal symptoms, but financial and geographic challenges prevented her from continuing treatment beyond two months.

For the present project, plant collection permits were granted by CONAP (National Council for Protected Areas) in Guatemala City. A plant collection form was used to collect each species and included common name, description of the plant (leaves, fruit, flower), plant part used for medicine, use(s), preparation and administration (Alexiades, 1996). Herbarium specimens of each plant species mentioned by the Q'eqchi for women's health, were collected with the presence of each informant to assure correct identification of the plant mentioned. Voucher specimens were deposited at the University of San Carlos (USC) herbarium and duplicates at the John G. Searle Herbarium of the Field Museum in Chicago, USA.

A total of 47 medicinal plants used for a variety of women's health complaints and 12 plants used to treat nervous conditions were documented. Specialized Q'eqchi healers and midwives mentioned the following wild and cultivated plants to ease symptoms of menopause: the rhizome of sarsaparilla (*Smilax domingensis* Willd., Smilacaceae; JM60) infused in hot water and taken as a tea to ease hot flashes; the rhizome of jengibre or ginger (*Zingiber officinale* Roscoe, Zingiberaceae; JM01) infused in hot water and taken as a tea to treat hot flashes and night sweats; a tea of the leaves and flowers of clavel, or hibiscus (*Hibiscus rosa-sinensis* L., Malvaceae; JM02) to treat nervous conditions; an infusion of the leaves of verbena (*Hyptis*

verticillata Jacq., Lamiaceae; JM05) taken as a tea to treat erratic menstruation associated with menopause; and the leaves of naranja agria or bitter orange (*Citrus aurantium* L., Rutaceae) as a tea and a bath to relieve night sweats and insomnia. The two midwives from the town of Livingston also mentioned the administration of hot teas of chamomile (*Matriarca* sp., Asteraceae) and valerian (*Valeriana officinalis* L., Valerianaceae) to relieve nervous complaints and insomnia, both purchased in the local herb store.

Discussion

Similar to many traditional medicine systems, the Q'eqchi Maya view disease as a result of natural and supernatural causes (Berlin, et al., 1996; Browner, 1985). For the Q'eqchi, health is associated with a balance between mind and body, as well as the maintenance of healthy relationships with family, community and nature (Parra Novo, 1997; Wilson, 1995). Similar to previous ethnographic studies on women's health in Latin America (Browner, 1985; Castaneda, et al., 1996;), the concept of a hot/cold duality, a pre-Colombian classification common to Latin America that characterizes foods, illnesses, people and medicines according to their inherent "cold" or "hot" properties, is commonly used by the Q'eqchi to explain the incidence of menstrual complaints. An excessively "cold" body constitution is also used by the Q'eqchi to explain the occurrence of menopausal symptoms.

It is important to note that these concepts of health differ from the Western medical model of disease and consequently affect attitudes regarding treatment choices and symptom reporting. Regardless of the availability of pharmaceuticals, it has been shown that many Latin Americans continue to adhere to their cultural beliefs and plant-based medicines of their homeland (Ososki, et al., 2001). As Western medicine continues to infiltrate into Latin America and Latin Americans continue to migrate to the US, medical ethnobotanical studies such as the present one can contribute to the development of cross-cultural understanding between Western and indigenous-based societies, thus improving patient-healer relationships and possibly preventing the dangers of herb-drug interactions.

Beyene (1986) and Martin and co-workers (1993) indicated that in such societies where menopause is viewed as a positive change, women experience few, if any, physiological and psychological symptoms of which Western women commonly complain in connection with menopause. The present research, however, indicates that, regardless of positive attitudes surrounding the end of menstruation, Q'eqchi Maya women frequently experience menopausal symptoms. Our results coincide with research performed in China, Indonesia and Mexico, which found no local term for the "hot flash" (Beyene, 1986; Boulet, Oddens, Leher, Vemer, & Visser, 1994; Lock, Kaufert, & Gilbert, 1988). Diet, fertility patterns, and exercise are often not thoroughly considered when gathering data on menopausal symptoms. Although specific correlations between an individual woman's menopausal symptoms and her diet, fertility patterns and amount of exercise/week were not made in this study a review of general patterns were considered as menopausal symptoms should not be isolated from a women's overall well being and lifestyle.

It is often argued that menopause has become a medicalized phenomenon thereby complicating the ways a woman experiences menopause and making her more vulnerable to medical control of this natural transition (Bell, 1987). Whether considered a condition to be treated or not, the symptoms of menopause among Q'eqchi women are real and many women and their husbands both suffered additional anxiety and distress when unfamiliar and unanticipated symptoms occurred. Initiatives that focus on educating the community on women's health issues, specifically common physiological and psychological disturbances during the menopause transition, are needed and would hopefully encourage the type of supportive environment these

menopausal women need without replacing traditional values and medical views with more Westernized ones.

It is estimated that between 65–80% of the people living in non-industrialized countries use traditional, complementary or alternative medicine as part of their primary health care (Farnsworth, Akerele, Bingel, Soejarto, & Guo, 1985). Consequently, the World Health Organization (WHO) and the Pan American Health Organization (PAHO) have launched a global plan to make the use of traditional medicine safer, more accessible, and sustainable by encouraging evidence-based research on the safety, efficacy and quality of these traditional products and practices. Ethnobotanical studies have become increasingly important in the development of these health care initiatives (Balick, Elisabetsky, & Laird, 1995). As part of a collaborative endeavor between the University of San Carlos in Guatemala City, The University of Illinois at Chicago in the US and Q'eqchi Maya communities many of the plants mentioned by the Q'eqchi are currently undergoing further biological and chemical analysis in order to provide further data on the safety and efficacy of botanicals currently being used for the treatment of menstrual and menopausal complaints. This information can then be presented to the Q'eqchi in the form of written manuscripts and oral presentations. Furthermore, continued research on botanicals from Latin America can contribute to our search for more benign and efficacious remedies for the treatment menopausal symptoms than those currently available worldwide. In order for this to become a long-term possibility, the sustainable cultivation of these plants may become necessary. Begun as a botanical garden and organic agriculture program in 1999, training in the techniques of organic cultivation and/or sustainable harvesting of medicinal plants is currently being undertaken by Q'eqchi members of Asociacion Ak'Tenamit. Depending on future funding and the continued interest of collaborators, research initiatives can then focus on purchasing these herbs directly from the community and developing sustainable, organic phytomedical products that can then serve as both medical and economic alternatives for the Q'eqchi and for Guatemala.

We recognize that there are limitations of the study, including the cultural differences between the researcher and Q'eqchi Maya research participants, which may have affected both the researcher's methodology as well as the interpretation of the results. Furthermore, Q'eqchi traditional medicine is a complex system that is ingrained in Q'eqchi spirituality and aspects of Q'eqchi life that may not have been revealed or apparent during a limited field stay (8 months). Other limitations include the small sample size of postmenopausal women, the lack of a premenopausal comparison group, as well as the potential for misinterpretation of symptoms by the researcher and the participants due to the intentional vagueness of the interview questions.

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Map 1.

A map of Guatemala showing Q'eqchi territory. Black squares represent current research sites.

Table 1
 Characteristics of Q'eqchi Postmenopausal Women (N = 8).

Characteristics	Average	SD +/-
Age at interview	50 years	± 2.65
Age at menarche	13 years	± 1.06
Age at menopause	46 years	± 2.87
Age at first pregnancy	17 years	± 1.31
Parity	8.75	± 2.43
Speak Q'eqchi Mayan Dialect	100%	± 0
Education	1.75 years	± 1.43
Smoking	0	± 0
Oral contraceptive use	25% (2/8)	-----
Use of HT during menopause	12.5% (1/8)	-----

Table 2

Menopausal Symptoms of Q'eqchi Women (n = 8)

Menopausal symptom	# of Women with Symptom
Headache	7/8
Anxiety	7/8
Muscular pains	7/8
Heart palpitations	6/8
Depression	5/8
Irritability	4/8
Hot flashes	3/8
Insomnia	3/8
Memory or concentration problems	3/8
Night sweats	3/8
Sexual problems	2/8
Urinary problems	2/8
Vaginal dryness	1/8